

## **REMARKS**

Claims 1 and 12 have been amended. Claim 5 has been canceled. Claims 1-4 and 6-14 are pending in this application.

### **I. Objection to Claim 12**

The office action states that claim 12 is objected to because the word “sectors” was omitted. Applicant has made this correction and submits that this objection can now be withdrawn.

### **II. Rejection of Claims 1-14 under Section 102**

The office action states that U.S. Patent No. 6,078,904, issued to Rebane, anticipates the invention set forth in claims 1-14. The examiner’s application of Rebane ‘904 to each of the claims are addressed in detail below.

#### **A. Claim 1**

The office action generally states that Rebane shows a method of generating a market-sector level index of investment portfolio performance.

As to the first step of acquiring data for a population of investments, the office action states that Rebane meets this limitation by citing Col. 8, lines 6-16, which states:

“In accordance with the present invention, the foregoing analysis and computations are embodied in a software product for controlling and configuring a computer to receive data descriptive of various investments and their risk characteristics, to interactively determine an investor's risk tolerance function, to allocate investment assets to an investment portfolio, to compute the probability density function of the portfolio's performance with respect to the investor's assets, and to compute and maximize the expected value of the probability density function of the investor's probability preferences. “

(Emphasis added)

It should first be understood that an index is a statistical device utilized to document an average value for a large population over time.

Index - Statistical device which summarizes a collection of data (usually related to the price or quantity of a 'basket' of goods and services) in a single base figure. This composite figure serves as a benchmark for measuring changes in the price or quantity data over a period (month, quarter, year). Usually, the base is assigned an arbitrary value of 100 and all subsequent data is expressed in relation to this base.

(citing <http://www.businessdictionary.com/definition/index.html>)

Market indices -- such as the Dow Jones Industrial Average, the NYSE Composite and the Standard & Poor's 500 -- track the performance of a large basket of stocks (in some cases up to several thousand).

(citing <http://www.streetauthority.com/terms/m/marketindices.asp>)

The method in the cited Rebane '904 patent method does not create an index but rather includes a system for collecting performance statistics on a population of investments. But by definition in Rebane, that population is limited in number (less than 30) and collected only in response to the individual tastes of a single investment client.

Of critical importance is that this does not allow the collection of data in a systematic fashion or to operate on it in any way to generate summary statistics reflective of a larger group of investments. Moreover, Rebane does not use the data collected to benchmark a market's performance over time, but rather to specify a choice of allocation strategy for a single investment portfolio and for a single point in time. For these reasons, Rebane's process to acquire performance data does not lead to the use of creating an index, as required by applicant's claimed invention, as amended.

Instead, as indicated in the office action, Rebane's focus is providing an advisory service for an individual investor where his process reveals a match between that investor's risk preferences and the investments and asset allocation alternatives available for creating a portfolio. This match is idiosyncratic to the investor and to a point in time.

Rebane does not propose a method for accumulating these matches into a broader statistic of market performance, or does he suggest a way to track the outcomes of an individual's matches over time.

We proceed here with a specified candidate set of N risky securities whose singular utility to the investor is their ability to contribute to a successful portfolio design.

(Rebane US 6,078,904 column 1, lines 39-42)

Additionally, Rebane takes special pains in the disclosure to affirm that his method applies only to the analysis of a portfolio made from a limited "short-list" of investment alternatives.

Independently of establishing an RTF, the investor selects 603 a short list of candidate investments for optimization by the RDAA or RR/CAPM modules. Selection is performed via short list maker module 311.

(Rebane US 6,078,904 column 12, lines 39-57)

Again, in the practical application of the invented algorithm and methodology to realistic short lists of stocks, the `risk seeking portfolio` at a high RCC may be characterized by high variance being traded off against a low mean because the risk seeker fully expects the high variance to work for (not against) him.

(Rebane US 6,078,904 column 7, lines 59-63)

Although Rebane does not state an absolute limit for this “short-list”, he does provide a rationale and recommended boundaries within his initial statement in the Background section of the patent.

The practical application of any quantitative method of portfolio design based on securities' covariance requires the selection of a 'short list' of N risky stocks or other securities.

Several studies have shown that the investor begins to gain "almost all the benefits of (portfolio) diversification" at  $N \leq 8$ , "virtually no risk reduction" for  $N > 15$  [14] and measurable liabilities increasing beyond  $N = 30$  [15].

(Rebane US 6,078,904 column 1, lines 29-38)

In view of the foregoing, it is clear that Rebane's process has nothing to do with creating an index. A point of distinction between applicant's process and those in the prior art, such as Rebane, concerns the collection of performance data for a population of investments. In contrast to this prior art, including Rebane, the process of applicant's claimed invention, as amended, is that it requires the collection of a large, market sector population of investment alternatives, and by practice, a population that is much larger than is suitable for constructing an investment portfolio. In paragraph 35 of applicant's specification, this is made clear by the statement that “The present invention preserves the advantages of prior art methods for creating market-sector level investment portfolio performance indices.”

Thus, the point of distinction between applicant's instant process and those of the prior art is that applicant employs a large population made from

“secondary-market securities (mutual funds, variable annuities and other book-valued collections of primary securities that offer ownership shares”

(citing Paragraph 02 of applicant's specification)

Applicant submits that those skilled in the art have not considered making a market-sector index from these book-valued collections of primary securities because they have been taught that the distribution of performance within a market-sector made from these investments is illogical and therefore unsuitable for aggregation. See Paragraph 28 in the Background section of applicant's specification.

"Averages for investment return and investment risk are usable benchmarks of investment management performance, but not the most critical that could be constructed and, unfortunately, are measures whose value has been denigrated over time by a series of academic studies written to demonstrate that a mutual fund manager selected at random from a market sector cannot outperform a primary-market index from that market sector."

Therefore, applicant submits that Rebane '904 fails to teach or suggest the step of acquiring data for large market-sector populations of investments consisting of book-valued collections of secondary-market securities.

The office action also states that Rebane teaches the step of generating a contiguous series of the measurement of periodic investment return for the population of investments whose operations mirror that of an investment manager holding a diversified portfolio. In support of this, the office action cites Rebane at col. 12 (incorrectly cited as col. 2), lines 31-39, which states:

"Prior to any optimization of a portfolio, the investor creates 601 at least one RTF to define his risk preferences using the RTF module 315. Once generated the RTF is stored and accessed as needed by the RDAA and RR/CAPM modules. The investor may review and update his RTF at any time, periodically or when a financially significant event has occurred. The process of creating the investor's RTF is further described below in §5.4."

The method of the present invention generates a contiguous series of periodic investment returns and is a precursor step to calculate measures of performance, namely, average return and returns variance, for a market-sector population of

investments used to create an index of the performance of those investments as if they were held as an investment portfolio.

In contrast, Rebane's cited method of finding an investor's RTF is a survey process to document the investor's tolerance for risk and does not involve aggregating periodic returns to construct measures of investment performance, as below:

### 3.1 Investor Utility and Probability Preference Curves

In accordance with one embodiment of the present invention, a risk tolerance function ("RTF") of the individual investor is determined. The risk tolerance function describes the investor's probability preferences at each of the number of monetary amounts relative to the investor's total assets.

Rebane US 6,078,904 (col. 4, lines 51-56)

The investor's risk tolerance function is derived interactively in a straightforward and systematic manner through a sequence of decisions involving so-called investment gambles.

Rebane US 6,078,904 (col. 5, lines 51-56)

Additionally, Rebane does not apply the RTF method or any others outlined in his patent to the process of constructing an index of a market sector population comprised of book-valued collections of secondary-market securities. Therefore, Rebane '904 fails to meet the limitation in claim 1 concerning generating a contiguous series.

The office action also states that Rebane teaches dividing the population of investments into market-sector groups whose pattern and level of past periodic returns has been uniquely different as stipulated under the tenets of Modern Portfolio Theory. In support of this, the office action cites Rebane at col. 2, lines 11-21 (incorrectly cited as being in col. 12).

"The total rate of return variance of such a portfolio is then given by as  $2(f) = f\_Tcov Sf$  which shows the dependence of the portfolio's return variance on the allocation vector .function.. In modern portfolio theory [4] it is  $o(f)$  from (3)

that gives the uniform measure of portfolio risk for all investors, and thus constrains CAPM to treat all investors equally. “

As to this citation, Rebane discusses using an algorithm used by Markowitz in his proof of the tenets of Modern Portfolio Theory as a device for identifying the “optimum portfolio” among asset allocation strategies. Although in general use by investment advisors in selecting allocation strategies for client portfolios, this algorithm, as discovered by applicant, typically provides false and misleading information when used in this regard. This finding is what has caused applicant to file a patent application for a corrective process to determine asset allocation strategies based on the analysis of “whole-populations” of allocation alternatives, namely Serial No. 10/604,699, entitled Process for the Selection and Evaluation of Investment Portfolio Asset Allocation Strategies and filed on August 11, 2003.

The aforementioned step of dividing the population of investments into market-sector groups is a precursor step to using this alternative process of allocation strategy selection. Its construct is based on the tenets of MPT, but not on the algorithm Rebane uses from MPT.

Moreover, Rebane does not use the strategy-selection process of the present invention. The selection process disclosed in Rebane that finds an “optimum portfolio” would be superfluous to a process of constructing an index using a market sector population comprised of book-valued collections of secondary-market securities. Therefore, Rebane fails to meet the limitation of this element of claim 1.

The office action further states that Rebane calculates an average of the population period-returns for each returns period and each market-sector group as

required by claim 1. In support of this, the office action cites Col. 11, lines 45-48 of Rebane:

"The asset allocation program 201 is 'stateful system' in that its internal data representation consists of a formal list of data structures and related status parameters having current values."

However, Rebane's "stateful system" is a collection of performance data derived from external sources and is a storage and retrieval system; not a process to calculate performance data such as an the population-average of period-returns for a market-sector group, as set forth in applicant's claimed invention.

In that connection, Rebane populates that "stateful system" with data regarding alternative investments, namely, with the "short list" of securities found within his process.

The following is a list of 'state variables' that are used by the asset allocation program 201:

Current Short List (SL) Nominations: a set of N investments selected by the investor for optimized allocation for optimized allocation

Current Short List Performance: for each of the investments on the Current Short List, predicted performance parameters including a covariance matrix of performance data.

Rebane US 6,078,904 Column11 -- lines 52-62

Rebane further states:

Independently of establishing an RTF, the investor selects 603 a short list of candidate investments for optimization by the RDAA or RR/CAPM modules. Selection is performed via short list maker module 311. The short list may be derived through any of a number of ways including, direct input of recommended securities from experts lists, investment advisors or other sources The investor can generate any number of alternative short lists, which can be individually labeled and stored for later retrieval.

For each short list, the investor specifies predicted future performance data for each investment asset. The future performance data may be the alpha, beta, Sigma, R2, and cross correlations related to the Efficient Market Hypothesis or derived through other predictive theory, including estimates that may be available in the securities database, 319, information from investment advisors, or inputs which just reflect the investor's own assessments of the future performance of the investments.



Rebane US 6,078,904 Column 12 – lines 39 –57 (emphasis added)

In view of the above, Rebane does not use the calculation process of the present invention in his process, but relies on performance calculations supplied by the investor. Additionally, his “stateful system” is not used to construct an index or to calculate a population-average of periodic returns for market-sector populations comprised of book-valued collections of secondary-market securities. Therefore, Rebane fails to meet the limitations of this element of claim 1.

The office action also asserts that Rebane teaches creating index-comparison statistics for each market sector that is in claim 1. The sole support for this position is provided by the examiner at col. 11, lines 48-51 of Rebane:

“The asset allocation program 201 performs certain functions and processes automatically and in response to user input depending on the current state of the system.”

As above, Rebane’s asset allocation program 201 is the “stateful system” referenced in his citation regarding the claim element discussed in detail directly above. The process referenced is the process of matching the investor’s input of assets selected and tolerance for risk as a set of graphs and statistics regarding chance of loss and is the same process outlined in the examiner’s arguments in connection with the element regarding “generating a contiguous series...” above. The examiner fails to provide any additional prior art or explanation to support Rebane meeting the limitation of the element concerning index-comparison statistics for each market sector.

Again, Rebane’s asset allocation program does not perform the functions of creating index-comparison statistics for each market sector, as in applicant’s claimed invention. In Rebane’s process, it is not necessary to form market-sectors to use the

MPT algorithm to determine asset allocation strategies. Therefore, Rebane's allocation method also fails consider to market-sector level statistics whether indexed or not. Therefore, Rebane fails to meet the limitation of this element of claim 1.

Still further, the office action states that Rebane meets the last element of claim 1, namely, "Generating population-comparison statistics for each market sector from periodic returns data of the market- sector group". In support of this, the office action states Rebane at Col. 12, lines 31-39:

"Prior to any optimization of a portfolio, the investor creates 601 at least one RTF to define his risk preferences using the RTF module 315. Once generated the RTF is stored and accessed as needed by the RDAA and RR/CAPM modules."

As mentioned in the examiner's arguments in connection with the element above concerning "generating a contiguous series...", the process of constructing an RTF statistic is one of modeling an individual investor's risk tolerance as a line and is based on the survey of that investor's preferences. This is an idiosyncratic process that is unique to each investor. Rebane does not anticipate combining the results from his process into any type of composite statistic of index.

The preference data is not tabulated in a way to create summary statistics at the market-sector level. Rebane's RTF process does not generate comparison statistics from periodic returns data of a market-sector group. And the process has nothing in common with one to create an index or to manufacture population statistics for populations comprised of book-valued collections of secondary-market securities. Therefore, Rebane does not meet the limitations of this element of claim 1.

In view of the foregoing, applicant submits that Rebane cannot anticipate applicant's claim 1, as amended. Applicant submits that claim 1 is now patentable over the cited prior art.

B. Claim 2

The office action states that Rebane US 6,078,904 meets the limitations of claim 2 because it teaches the method of claim 1, wherein the index comparison statistics are calculated using the formula of:  $[(\text{ending value} - \text{preceding period}) * (1 + (\text{average periodic return} - \text{current period} / 100))] = [\text{ending value} - \text{current period}]$  and the start date and beginning value is set to coincide with earliest available initial date and the initial-date index value for an associated primary-market index.

In support, the office action cites Rebane '904 at col. 13, lines 4-13:

"Input/edit current actual portfolio. Here the investor identifies the investments to be included in the optimization, preferably by security label, and including purchase price, purchase date, current price. The price information may be accessed and provided by the account management module 310 Current market prediction data, including the Investment Horizon, Market Appreciation, and Standard Deviation data. Again, this data need not be manually input by the investor, but may be extracted from existing online sources via the account management module 310"

However, Rebane's process does not include a method for calculating index-comparison statistics, as required by applicant's invention. He does not create indices, or does he calculate performance statistics from which these indices can be derived.

In fact, Rebane teaches away from applicant's invention. As indicated in Rebane cited above, Rebane prefers the investor to supply his own statistics or use the portal Rebane itself supplies through an "account management module 310" to access third party statistics held in file. In describing this portal, Rebane makes it clear in his

invention that the statistics thus supplied are not ones generated as calculations from his process but are ones retrieved from other sources. See Rebane at col. 11, lines 15-21 below:

5.1.6 Account Management Module I5

Current Computed Portfolio: Origin— Optimized, User

The account management module 310 provides a user interface to one or more online investment systems, such as a brokerage house to access and update an investor's account. The account management module 310 retrieves and displays securities data, corporate financials, market performance data and other research information.

Thus, Rebane's account management module does not calculate index-comparison statistics. It does consider market-sector populations of securities and does not calculate market-sector level statistics, whether indexed or not. As a result, it cannot meet the limitations of claim 2 of applicants invention under Section 102.

C. Claim 3

The office action asserts that Rebane at col. 13, lines 4-7 meets the limitations of claim 3:

The method of claim 1, wherein the index comparison statistics are calculated using the formula of:  $[(\text{ending value}-\text{preceding period}) * (1 + (\text{average periodic return}-\text{current period}/100))] = [\text{ending value}-\text{current period}]$  and the start date and ending dates for the compared indices are set to common values and the initial index value is set to 100

"Input/edit current actual portfolio. Here the investor identifies the investments to be included in the optimization, preferably by security label, and including purchase price, purchase date, current price."

However, applicant's claim 3 makes a subtle yet important distinction between a process to calculate index-comparison statistics for a market-sector population of secondary-market securities calibrated to "the initial-date index value for an associated

primary-market index”, as in claim 2, and calibrated to the population’s own initial starting value, which is “initial index value is set to 100”, as found in claim 3.

The examiner is making a subtle distinction between Rebane’s “account management module 310” as described in column 11, lines 14-13, found in the examiner’s arguments in connection with claim 2, and in column 11, lines 4-7 relating to the arguments in connection with claim 3. However, this subtle distinction is still insufficient to meet the limitations of claim 3 relating to the calculation of index-comparison statistics. Therefore, Rebane, as with claim 2 above, fails to meet the limitations of claim 3 under Section 102.

D. Claim 4

The office action states that Rebane meets the limitation of claim 4 by asserting that the method of claim 1, wherein the population-comparison statistics are calculated using an equilibrium line structured under the tenets of the CAPM, citing Rebane at col. 13, lines 28-31:

"The investor generates 607, 609 an optimized allocation of investment assets for the current short list, including owned securities, of investment assets, using the RDAA module 301 and for the RR/CAPM module 303."

It is well known that the tenets of CAPM provide the generally-accepted methodology for creating comparison statistics within an asset-class population of investments. It is a common tool and both Rebane and the applicant rely on it for their processes.

However, Rebane’s RDAA module 301 and RR/CAPM module 303 both use results derived from the algorithm contained in the Capital Markets Pricing Model for

the limited purpose of determining a asset allocation strategy suitable for an individual's tolerance for risk at a point in time:

The basic premise behind RR/CAPM and RDAA is that the investor makes monetary choices in uncertain situations according to the investor's specific tolerance for risk.

Therefore, the salient monetary decisions among alternative portfolios are to be resolved so as to maximize the expected value of PP on the investor's RTF.

(Rebane at column 23, lines 28 –31)

In Rebane, this creates an idiosyncratic result not suitable or intended for calculating statistics for a market-sector index. They also involve statistics only for a “limited set” of investments, as previously mentioned in connection with applicant's arguments in support of allowance concerning claim 1.

Finally, the RDAA module 301 and RR/CAPM module 303 create statistics of performance that are intended to be different from the types of performance statistics that the applicants uses to create population-comparison statistics, as Rebane makes clear:

This is in direct opposition to the conventional view of attempting to represent the risk measure in such terms as the classical 'risk adjusted return' for an investment computed as its expected rate of return divided by the standard deviation of that rate.

The RR/CAPM approach is based on individual risk tolerance expressed over a bounded and currently relevant monetary spectrum.

(Rebane at column 23, lines 28 –46)

To summarize, Rebane's RDAA and RR/CAPM processes do not calculate index-comparison statistics. They also do not consider market-sector populations of securities and do not calculate market-sector level statistics, whether indexed or not. Such

features are set forth in applicant's claim 4. As a result, Rebane '904 does anticipate claim 4 under Section 102.

E. Claim 5

Claim 5 has been canceled as the limitations therein have been incorporated into based claim 1.

F. Claim 6

Turning now to claim 6, the office action states that Rebane, at col. 28, lines 20-27, teaches applicant's method of Claim 1, wherein the populations of investments are comprised of asset classes of mutual fund securities:

"Before concluding this subsection we introduce a further capability of both RR/CAPM and RDAA that applies uniformly to all solution forms. This is the ability of the investor to specify enforced diversification and/or minimums for all elements of the decision vector  $f$  such as may be imposed by prudence, corporate policy, or governmental regulations on, say, a mutual funds manager."

The examiner relies on Rebane to show that the output from his RR/CAPM and RDAA modules can be used by an investor to specify limits or boundaries to his investment strategy, just as the board of trustees for a mutual fund may impose limits or boundaries on the investment activities of its manager. While this may be a laudable capability, it is completely unrelated to applicant's claimed invention because it has nothing to do with applicant's method of generating an index and is further unrelated to whether applicant uses mutual funds as its index population. While Rebane includes some of the same words used by applicant's method, it still completely fails to meet the limitations of claim 6. Therefore, it cannot possibly anticipate claim 6 under Section 102.

G. Claim 7

As to claim 7, the office action states that Rebane '904, citing col. 12, lines 35-38, shows the method of Claim 1, wherein the periodic returns are calculated on the basis of quarterly periodic returns:

"Prior to any optimization of a portfolio, the investor creates 601 at least one RTF to define his risk preferences using the RTF module 315. Once generated the RTF is stored and accessed as needed by the RDAA and RR/CAPM modules. The investor may review and update his RTF at any time, periodically or when a financially significant event has occurred."

As previously argued in connection with claim 2 above, Rebane's processes, using the RTF, RDAA and RR/CAPM modules, rely on performance statistics of average return and periodic returns volatility derived from external sources. However, none of his system modules, as revealed in his patent, are built to calculate statistics from periodic returns or quarterly periodic returns. Furthermore, none of these systems generate comparison statistics from periodic returns data of a market-sector group, or a group made from book-valued secondary market securities.

Thus, Rebane '904 cannot meet the limitations of claim 7 and anticipate it under Section 102.

H. Claim 8

As to claim 8, the office action states that Rebane '904, citing col. 12, lines 35-38, discloses the method of Claim 1, wherein the periodic returns are calculated on the basis of daily periodic returns:



"Prior to any optimization of a portfolio, the investor creates 601 at least one RTF to define his risk preferences using the RTF module 315. Once generated the RTF is stored and accessed as needed by the RDAA and RR/CAPM modules. The investor may review and update his RTF at any time, periodically or when a financially significant event has occurred."

As with claim 7 above, Rebane's processes, using the RTF, RDAA and RR/CAPM modules, rely on performance statistics of average return and periodic returns volatility derived from external sources. As above, none of Rebane's system modules, as disclosed in the cited reference, are built to calculate statistics from periodic returns or daily periodic returns. None of Rebane's systems generate comparison statistics from periodic returns data of a market-sector group, or a group made from book-valued secondary market securities. As a result, these systems are not suitable for creating an index from these market-sector statistics, which is critical to applicant's invention.

Therefore, Rebane '904 cannot meet the limitations of claim 8 and anticipate it under Section 102.

I. Claim 9

As for claim 9, the office action states that Rebane, citing col. 27, lines 32-39, shows the method of Claim 1, wherein the variance in periodic returns is calculated as its absolute value, known as the standard deviation of periodic returns around their average value:

"The preceding RDAA solutions robustly cull the Nmember 'short list' when certain issues provide no benefits of diversification. However so far we have been forced to invest the entire amounts specified by A.sub.IT and A.sub.1 no matter what the current risk free return R.sub.RF or the historical performance (e.g. reflected by alpha, beta, sigma, covS) of the N securities."

However, the examiner's citation of Rebane above refers to a claim by Rebane that his RDAA module used to generate solutions to asset allocation strategy

alternatives is built to eliminate prospective investments submitted by the investor that do not significantly impact the efficiency of the selected allocation strategy and that the RDAA module automatically discards redundant investments.

This, again, is a laudable capability, but its application is idiosyncratic and it only supplies a solution to an individual's strategy decision at a specific point in time. And it has nothing to do with calculating a statistic of the variance in periodic returns.

This capability does not generate comparison statistics for a market-sector group made from book-valued secondary market securities. This capability does not lead to creating an index from these market-sector statistics as required by applicant's claimed invention. As result, Rebane cannot meet the limitations of claim 9 anticipate it under Section 102.

J. Claim 10

As to claim 10, the office action states that Rebane US '904 shows the method of Claim 1, wherein the variance in periodic returns is calculated in terms of its value relative to the pattern and level of the variance in periodic returns for a benchmark measure, otherwise known as beta. In support, the examiner cited Rebane at col. 27, lines 32-39.

"The preceding RDAA solutions robustly cull the Nmember 'short list' when certain issues provide no benefits of diversification. However so far we have been forced to invest the entire amounts specified by An and A! no matter what the current risk free return RRF or the historical performance (e.g. reflected by alpha, beta, sigma, covS) of the N securities."

As with claim 9 above, this citation of Rebane refers to a claim by Rebane that his RDAA module generating solutions to asset allocation strategy alternatives is build to eliminate prospective investments submitted by the investor that do not significantly

impact the efficiency of the selected allocation strategy and that he can get rid of redundant investments.

As referenced in the above response to objections raised in relation to claim 9, this is a laudable capability, but its application is idiosyncratic and it only supplies a solution to an individual's strategy decision at a specific point in time. It also has nothing to do with calculating a statistic of the variance in periodic returns known as "beta", as specifically required by claim 10.

Moreover, Rebane's capability does not generate comparison statistics for a market-sector group made from book-valued secondary market securities. This capability does not lead to creating an index from these market-sector statistics as required by applicant's claimed invention. Thus, Rebane cannot anticipate claim 10 under Section 102.

K. Claim 11

As to claim 11, the office action states that Rebane '904 teaches the method of Claim 1, wherein the population of periodic returns data comes from an average of a population of investment alternatives combined as four market-sectors. In support, the examiner relies on col. 27, lines 32-43 of Rebane:

"The preceding RDAA solutions robustly cull the Nmember 'short list' when certain issues provide no benefits of diversification. However so far we have been forced to invest the entire amounts specified by AU and Ai no matter what the current risk free return RRF or the historical performance (e.g. reflected by alpha, beta, sigma, covS) of the N securities. Due to its direct approach to maximizing the investor's utility-mapped PP, RDAA may also be configured to select the amount An to be invested subject to the investor supplied constraint that AU e Unit: 3609 where 023 fi.uM ^1 is termed the investment fraction of total net assets.

Applicant's response in support of claims 9 and 10 apply to claim 11 as well. In lines 40-43, Rebane indicates that solutions arising from his process for determining an asset allocation strategy, namely from the RDAA module, can be modified to fit within a model supplied by the investor specifying the allocation amounts as a fraction of portfolio assets.

Yet again, this can be viewed as a valuable capability but only applies to an individual's deliberations over a strategy specific to their preference for risk, the limited set of investment alternatives they are considering and the performance statistics supplied by the investor and relevant for only a specific point in time. It is not pertinent to applicant's invention as this capability does not generate comparison statistics of performance for a market-sector group of investments, including populations of book-valued secondary-market securities. It is not a suitable process for creating an index.

As a result, Rebane cannot meet the limitations of claim 11 and, therefore, cannot anticipate it under Section 102.

L. Claim 12

As for claim 12, the office action asserts that Rebane US 6,078,904 shows the method of Claim 1, wherein the population of periodic returns data comes from an average of a population of investment alternatives combined as five market sectors.

In support of this position, the examiner relies on Rebane '094 at col. 27, lines 32-43:

"The preceding RDAA solutions robustly cull the N member 'short list' when certain issues provide no benefits of diversification. However so far we have been forced to invest the entire amounts specified by AU and At no matter what the current risk free return RRF or the historical performance (e.g. reflected by alpha, beta, sigma, covS) of the N securities. Due to its direct approach to maximizing the investor's utility-mapped PP, RDAA may also be configured to select the amount AH to be invested subject to the investor

supplied constraint that  $A_i \leq [O_i / \sum_{j=1}^N A_j]$  where  $\sum_{j=1}^N A_j = 1$  is termed the investment fraction of total net assets. "

As above, this can be viewed as a valuable capability but only applies to an individual's deliberations over a strategy specific to their preference for risk, the limited set of investment alternatives they are considering and the performance statistics supplied by the investor and relevant for only a specific point in time. For the same reasons above, it is not pertinent to applicant's invention as this capability does not generate comparison statistics of performance for a market-sector group of investments, including populations of book-valued secondary-market securities. It is not a suitable process for creating an index.

As a result, Rebane cannot meet the limitations of claim 12 and, therefore, cannot anticipate it under Section 102. Also, as indicated above in Section I, this claim has been modified to include the word "sector" to make it more clear and definite.

#### M. Claim 13

As for claim 13, the office action states that Rebane US 6,078,904 shows the method of Claim 1, wherein the population of periodic returns data comes from an average of a population of investment alternatives combined as seven market-sectors. In support, the examiner cites Rebane at col. 27, lines 32-43:

"The preceding RDAA solutions robustly cull the Nmember 'short list' when certain issues provide no benefits of diversification. However so far we have been forced to invest the entire amounts specified by AIT and  $A_i$  no matter what the current risk free return RRF or the historical performance (e.g. reflected by alpha, beta, sigma, covS) of the N securities. Due to its direct approach to maximizing the investor's utility-mapped PP, RDAA may also be configured to select the amount AIT to be invested subject to the investor supplied constraint that  $A_i \leq [O_i / \sum_{j=1}^N A_j]$  where  $\sum_{j=1}^N A_j = 1$  is termed the investment fraction of total net assets.

As above, this can be viewed as a valuable capability but only applies to an individual's deliberations over a strategy specific to their preference for risk, the limited set of investment alternatives they are considering and the performance statistics supplied by the investor and relevant for only a specific point in time. For the same reasons above, it is not pertinent to applicant's invention as this capability does not generate comparison statistics of performance for a market-sector group of investments, including populations of book-valued secondary-market securities. It is not a suitable process for creating an index.

As a result, Rebane cannot meet the limitations of claim 13 and, therefore, cannot anticipate it under Section 102.

N. Claim 14

As-for claim 14, the office action states that Rebane US 6,078,904 shows the method of Claim 1, wherein the population of periodic returns data comes from an average of a population of investment alternatives combined as ten market-sectors.

In support of this position, the examiner again cites Rebane at col. 27, lines 32-43:

"The preceding RDAA solutions robustly cull the Nmember 'short list' when certain issues provide no benefits of diversification. However so far we have been forced to invest the entire amounts specified by A1T and A-i no matter what the current risk free return RRF or the historical performance (e.g. reflected by alpha, beta, sigma, covS) of the N securities. Due to its direct approach to maximizing the investor's utility-mapped PP, RDAA may also be configured to select the amount AIT to be invested subject to the investor supplied constraint that  $AH \in [0, f_i, LiMA_j]$  where  $0.23 f_i uM^{^1}$  is termed the investment fraction of total net assets.

As above, this can be viewed as a valuable capability but only applies to an individual's deliberations over a strategy specific to their preference for risk, the limited set of investment alternatives they are considering and the performance statistics

supplied by the investor and relevant for only a specific point in time. For the same reasons above, it is not pertinent to applicant's invention as this capability does not generate comparison statistics of performance for a market-sector group of investments, including populations of book-valued secondary-market securities. It is not a suitable process for creating an index.

As a result, Rebane cannot meet the limitations of claim 14 and, therefore, cannot anticipate it under Section 102.

In view of the foregoing, applicant submits that Rebane '904 fails to meet the limitations of claims 1-14, as amended. Therefore, the rejection of claims 1-14 under Section 102 should be withdrawn. As a further ground for allowance, applicant submits that dependent claims 2-14 are now also allowable because they depend from now allowable claim 1, as amended.

### **III. Conclusion**

Applicant submits that Claims 1-4 and 6-14, as amended, are allowable over the cited prior art. In view of the above, Applicants submit that pending Claims 1-4 and 6-14 are now in condition for allowance. Reconsideration of the Rejections and Objections are requested. Allowance of Claims 1-4 and 6-14 at an early date is solicited.

If an extension of time is required for timely submission of this response, Applicant hereby petitions for an appropriate extension of time and the Office is

authorized to charge Deposit Account 02-0900 for the appropriate additional fees in connection with the filing of this response or credit any overpayment.

The Examiner is invited to telephone the undersigned should any questions arise.

Respectfully submitted,

/david r. josephs/

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